



CASE STUDY UNIVERSITY OF NEW MEXICO DENTAL HYGIENE CLINIC (NOVITSKI HALL)

The City of Albuquerque's Pollution Prevention (p2) Program is a free, non-regulatory, technical assistance program. The p2 Program's primary focus is on pollution prevention practices and wastewater discharges that may harm the Southside Water Reclamation Plant and/or Rio Grande.

The p2 staff conducted a case study of the University of New Mexico's Dental Hygiene School located at Novitski Hall (building 249) on May 19, 2003.

UNM's Dental Hygiene Clinic services are available to the public, students, faculty, and support staff. There are 3 dental chairs: 2 dedicated to extractions, fillings, and other types of dental work, and 1 chair specifically for dental hygiene work. There are approximately 75 students enrolled in the program.

Sandra Johnston, Dental Assistant conducted the tour of the Dental Hygiene School. Linda McCormick, p2 Specialist for **UNM's Office of Safety Health and Environmental Affairs (SHEA)** assisted with this case study.

Pollution Prevention (p2) is the reduction of wastes through source control i.e., the use of process changes, technologies, good operating practices, material substitutions and recycling.

CURRENT P2 PRACTICES INCLUDE:

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| , Wrapping (with shrink wrap) only instruments that have been sterilized and must be wrapped | , Collecting scrap amalgam for recycling |
| , Making up only the necessary amount of <i>Vital D</i> for students' use | , Recycling lead foil |
| , Reusing residual of <i>Vital D*</i> for making up solution | , Collecting used X-Ray fixer for recycling |
| , Just in Time Inventory (JIT) Control | , Using precapsulated amalgam |
| , Written Spill Control Plan | , Reuse plastic baggies for biomedical waste. |
| , Written Chemical Hygiene Plan | , Replaced cuspidors with chair side vacuums. |



, Dry tooth model trimmers are used which results in water conservation

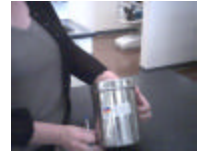
, Using shrink wrap for pen covers



, Making up

**Vital D is a cold sterilant and is one of the chemicals that may be substituted for glutaraldehyde.*

premoistened towelettes for students' use. This reduces exposures to Vital D aerosols and creation of solid waste.



CHEMICAL WASTE MINIMIZATION & MANAGEMENT

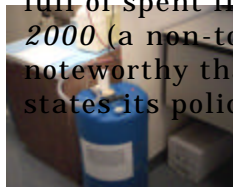
Chemicals are dispensed to students when they have depleted their personal allotment of a chemical. The staff at Novitski Hall has found innovative and sensible ways to reduce waste as noted above with chemical solutions such as Vital D, and making sterile wipes when needed, etc.

Flammable materials such as alcohol are stored in a flammable cabinet.



SPENT FIXER & PHOTOPROCESSING WASTE

Spent fixer is collected and recycled through the SHEA office. The collection barrel is clearly marked and has an audible alarm to alert personnel when the drum is full of spent fixer. There is no scrap film generated at the dental school, and *Spray 2000* (a non-toxic cleaner) is used to clean the developer system. It is also noteworthy that UNM's dental hygiene school is committed to patient safety and states its policy on reducing unnecessary x-rays in the clinic.



MERCURY

Scrap amalgam is stored on site for recycling in a labeled container. When enough scrap amalgam is accumulated it will be recycled. The dental school uses precapsulated amalgam which reduces waste, and spills that may occur with bulk amalgam. There are plans to install amalgam separators after different models are evaluated by SHEA.

During the dates of **April 30, 2003 to May 6, 2003**, samples were collected from the surge tank that discharges to collection system. The idea was to collect data for

the possibility of loaning UNM the amalgam separator purchased by the EPA dental grant. However, there were several factors that prohibited the installation of the amalgam separator including costs, infrastructure of Novitski Hall, etc. We commend UNM for volunteering for the project, and UNM's SHEA Office have plans to evaluate and purchase amalgam separators.

Nonetheless, important data was collected indicating that residual mercury may be settled in the piping of Novitski Hall. Office personnel at SHEA are working on removing the residual mercury using best management practices for removing mercury from plumbing infrastructures as outlined by the **Medical Academic and Scientific Community, Inc. (MASCO) Working Group at** <http://www.masco.org/mercury/phase2/index.html>

SPILL CONTROL PLAN/EMERGENCY RESPONSE PLAN:

There is a written Spill Control Plan posted on UNM's web page. A spill kit is available for cleaning spills, and students and staff are trained to clean up spills.

SUMMARY

Personnel at Novitski Hall have found innovative and cost effective ways of reducing wastes generated in dental offices. The dental school has received two awards from the City of Albuquerque; the 5 Parts Per Million (5 PPM) Silver Award for reclaiming silver from the X-Ray process, and the Pollution Prevention (p2) Award for reducing waste at this facility. One of the reasons UNM's Dental Hygiene School has been so successful is the buy in from upper management, and participation from students.

The City of Albuquerque does not recommend, endorse, or promote any particular company, product or technique. The information in this case study is furnished as a service. Contact the p2 Program at 505-873-7058/7059

